

PROCEEDINGS OF THE MERCHANT MARINE COUNCIL

UNITED STATES  COAST GUARD

Vol. 4

June 1947

No. 6



MERCHANT MARINE COUNCIL

Published monthly at Coast Guard Headquarters, Washington 25, D. C., under the auspices of the Merchant Marine Council, in the interest of safety at sea. There are no restrictions on the republication of material appearing in this issue.
Mention of source will be appreciated.

The Merchant Marine Council of the United States Coast Guard

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For each meeting two District Commanders and three Marine Inspection Officers are designated as members by the Commandant.

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TEXAS CITY DISASTER

The board of investigation which inquired into the fires and explosions on the French steamship *Grandcamp* and the steamship *Highflyer* at Texas City, Tex., on April 16 and 17, 1947, has reported its preliminary findings. Upon receipt of reports on all the tests of samples of ammonium nitrate, being conducted by testing laboratories, the findings will be completed.

The *Grandcamp*, ex *Benjamin R. Curtis*, was a Liberty type ship, owned by the French Government. She arrived in Texas City on April 11, 1947, and began loading ammonium nitrate into No. 2 and No. 4 lower holds and continued loading until shortly after 8 a. m. on April 16th. Upon arrival her cargo consisted of shelled peanuts, sisal twine, tobacco, cotton, machinery and miscellaneous cargo, which was stowed in holds other than those in which the ammonium nitrate was stowed.

The main hatch to No. 4 hold had been closed at 5 p. m. on April 15 when loading was secured for the night. The following morning the hatch was uncovered and at about 8:10 a. m. two gangs of longshoremen entered the hold. Upon entry there was no odor or sign of smoke. The offshore gang started stowing a trayload left in the square of the hatch the night before while the inshore gang awaited a trayload. About 5 minutes after entering the hold one of the longshoremen smelled smoke and shortly saw smoke coming from between the sweat battens and the skin of the ship on the inshore side

(starboard) about the middle of the length of the hold. The smoke was light in volume and centered between two frames.

Portable fire extinguishers were applied and the smoke disappeared only to reappear at other frame spaces along the starboard side together with small flames. Efforts to extinguish the flames with extinguishers were fruitless. The ship's alarm and the Texas City Terminal alarm were sounded. In response to the latter the Texas City Volunteer Fire Department responded with apparatus and personnel. Pending arrival of the fire apparatus efforts were made to extinguish the fire by smothering it. All persons were ordered out of the hold, the hatch was closed, ventilator cowls covered, and steam introduced through the steam smothering system. Although the ship's fire pump was in operation no attempt was made to put out the fire with water from the ship's fire hoses.

The smothering method was not effective. Pressure built up in the hold causing the tarpaulin to balloon and the hatch boards to lift and fall back on deck. The smoke increased in volume and changed to a dark orange color, characteristic of nitrous fumes.

All hands were directed to leave the ship. Fighting the fire became the sole responsibility of the Texas City Fire Department which had arrived on the scene. Streams of water were played on to No. 4 hatch from the dock side but without avail for at

about 9:15 a. m. there was a terrific explosion, followed very shortly by another. The 850 tons of ammonium nitrate in lower No. 4 hold detonated and in turn apparently detonated the 1,450 tons in lower No. 2 hold.

The explosions completely destroyed the *Grandcamp* and set off a chain of events which resulted in the loss of close to 600 lives and millions of dollars of property damage. The cover picture gives some indication of the terrific force of the explosion. It shows what remains of the warehouse and pier at which the *Grandcamp* was moored.

Fires broke out at various points in the marine terminal, including warehouses, piers, oil tanks, and the plant of the Monsanto Chemical Co. Dense black smoke from the fires in the latter plant and fumes of burning sulfur in Warehouse A were carried by the wind and blanketed the pier area throughout the day and night.

The steamship *Highflyer* and the steamship *Wilson B. Keene* were berthed in the slip to the south of the slip in which the *Grandcamp* was berthed. Upon learning of the fire on the *Grandcamp* the fire alarm was sounded on each vessel, loading was secured, hatches covered, and fire stations manned. The explosions parted the mooring lines of both vessels and the northerly wind set the *Highflyer* down alongside of the *Keene* on the south side of the slip. In addition major damage was done to each vessel. Decks were buckled, hatch covers were blown off, and light steel bulkheads were split and ripped. The *Highflyer* was a "dead ship" because of turbine repairs and the *Keene* became a "dead ship" as a result of the damage suffered. Casualties on the *Keene* were 2 dead and 5 missing out of a crew of 40, and on the *Highflyer* 1 dead and 1 missing out of a crew of 39. Numerous others were seriously injured.

The dense smoke and the sulfur fumes sweeping across the ships, in addition to the need of medical attention for many of the crews, made it mandatory for all hands to leave the vessels.

Two tugs were dispatched from Galveston prior to the explosion to assist a vessel reported to be on fire at Texas City. While en route the explosions on the *Grandcamp* occurred. They arrived off Texas City shortly before 10 a. m., but the conditions along the waterfront were such that it was impossible to enter the turning basin. Their efforts were concentrated

on picking up injured and dead for transportation to Galveston.

During the day other rescue craft were able to enter the turning basin. However, the dense smoke, sulfur fumes, and heavy debris prevented their entrances into the slip in which the *Highflyer* and the *Keene* were lying. Consequently search for and rescue of injured, and fire fighting became their primary missions.

It was not until 11 p. m. that tugs were able to enter the slip. The smoke had lifted somewhat but still hampered operations. By this time the *Highflyer*, which had on board 2,000 tons of sulfur in No. 2 and No. 4 lower holds and 860 tons of ammonium nitrate in lower No. 3 hold, was on fire. Efforts to move the *Highflyer* were unsuccessful apparently because the two vessels were fouled amidships. Although the tugs were equipped to clear any obstructions the sulfur fumes from No. 2 and No. 4 holds prevented any examination amidships.

Conditions on board the *Highflyer* became worse and at about 12:55 a. m. the tugs abandoned their efforts and pulled out of the slip. It was fortunate that they did because 15 minutes later there was a terrific explosion on the *Highflyer*, which was demolished as a result. That part of the *Keene* abaft No. 2 hatch was likewise demolished. An idea of the force of this explosion can be gotten from the fact that the boiler drums and tubes and a large section, consisting of a main hatch, deck plating, side plating, bulwarks and 'tween deck, estimated to weigh 60 tons, were found a half mile from the scene.

The explosion on the *Grandcamp* destroyed four pieces of fire apparatus of the Texas City Fire Department with a consequent delay in fighting the fires touched off by the explosion. Of 27 firemen engaged in fighting the fire all perished. Portions of only 4 bodies were recovered that could be identified. The members of the crew of the *Grandcamp* assembled on the pier after leaving the vessel. Of the 41 in the crew only 6 survived and 5 of these are known to have left the pier a few minutes before the explosion.

Ammonium nitrate is an oxidizing material which is subject to rapid decomposition when exposed to temperatures above 400° F. Because of this it is classed as dangerous cargo in the Coast Guard Regulations "Explosives or Other Dangerous Articles on Board Vessels, April 9, 1941." These regulations govern the transportation, storage, stowage, or use of explosives or other dangerous articles or substances on board vessels and are binding upon shippers; and owners, charterers, agents, masters or persons in charge of vessels; and upon all other

persons transporting, carrying, conveying, handling, storing, or stowing on board vessels any cargo classified as dangerous or hazardous.

Hardly without exception all persons who testified before the board and who were concerned with the handling, stowage, and transportation of the ammonium nitrate displayed a lack of knowledge of the applicable regulations. Among the violations noted were (1) stowage of broken or torn bags; (2) improper description of the material on shipping papers; and (3) failure of the shipper to notify the vessel in advance in writing of the characteristics of dangerous cargo to be shipped on the vessel.

This lack of familiarity with the regulations may be due to the fact that the regulations became effective just a few months before the war and that during the war the loading of ships was in the main supervised by military personnel. Now that the responsibility for loading and stowage is on the master without any other responsible supervision, it is mandatory that these regulations be studied and complied with when any articles listed in the regulations are to be carried.

Smoking on board the *Grandcamp* was not strictly controlled. No specific instructions were issued to longshoremen with respect to smoking. However, there was general understanding among them that no smoking on deck or in the holds was permitted but this restriction was not respected. Smoking on the main deck near No. 4 hatch was committed during the vessel's stay at Texas City.

The jurisdiction of the board was limited to an investigation of the marine transportation phase. Because of this and as a means of exhausting every possible avenue of information the Commandant has recommended to the Secretary of the Treasury that a committee be formed, consisting of representatives from the Departments of State, Treasury, War, Navy, Interior, Agriculture, Commerce, and the Interstate Commerce Commission, the Maritime Commission, and the Bureau of Explosives. This committee would seek to determine every aspect of the characteristics of ammonium nitrate; develop additional information relative to its hazards in transportation; evaluate suggested proposals for assuring safety in transportation, handling and stowage; and recommend a national policy in conformity with these objectives.

**KNOWLEDGE IS NO BURDEN
SAFETY ALWAYS**

ONE ACCIDENT IS ONE TOO MANY

NATIONAL MARITIME DAY, 1947

BY THE PRESIDENT OF THE UNITED STATES
OF AMERICA

A PROCLAMATION

WHEREAS the future peace of the world, so earnestly sought by all, will be immeasurably advanced by the co-operation of the several nations in removing excessive restrictions upon international trade, and the United States has already assumed the lead in the reduction of barriers to world commerce; and

WHEREAS international trade and travel, utilizing merchant shipping on all the oceans of the globe, will serve as a vehicle of increased participation of the United States in world affairs; and

WHEREAS the welfare of the American Merchant Marine is of the utmost importance to our national economy, our national defense, and our friendly intercourse with foreign nations; and

WHEREAS the Congress by Public Resolution 7, 73rd Congress, approved May 20, 1933, took cognizance of the historic fact that "on May 22, 1819, the steamship *The Savannah* set sail from Savannah, Georgia, on the first successful transoceanic voyage under steam propulsion, thus making a material contribution to the advancement of ocean transportation," and requested the President to issue a proclamation annually calling for the observance of May 22 as National Maritime Day:

NOW, THEREFORE, I, HARRY S. TRUMAN, President of the United States of America, do hereby call upon the people of the United States to observe May 22, 1947, as National Maritime Day by displaying the flag at their homes or other suitable places, and I direct that the flag be displayed on that day on all Government buildings. I also request that all ships sailing under the American flag dress ship on that day.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States of America to be affixed.

DONE at the City of Washington this 11th day of April in the year of our Lord nineteen hundred and forty-seven and of the Independence of the United States of America the one hundred and seventy-first.

HARRY S. TRUMAN

By the President:

DEAN ACHESON,

Acting Secretary of State,

(12 F. R. 2431, 15 April 1947.)

In accordance with the above proclamation the Coast Guard joined the Nation in setting aside May 22

for the observance of National Maritime Day. In doing so the Commandant stressed the importance of the national welfare, a well-balanced, safe, and modern merchant marine. The Nation, it was stated, needed this kind of merchant marine for world and domestic trade and for its own safety and security.

In keeping with the proclamation for this occasion, all Coast Guard vessels in commission were ordered to dress ship.

Present and Future Problems of the American Merchant Marine

Commodore H. C. Shephard appeared before the President's Merchant Marine Advisory Committee to express the views of the Commandant on the present and future problems of the American Merchant Marine.

The United States Coast Guard is deeply concerned about the present and future welfare of the American merchant marine and this concern is for two primary reasons, both of which are humanitarian, one being marine safety in time of peace and the second being national safety in time of war.

The exigencies of World War II necessitated a bilateral emphasis on marine safety. On one hand, the standards were revised; on the other, they were relaxed or "waived." The cessation of hostilities automatically terminated the necessity for many of the wartime safety measures. Paradoxically, however, there could be no corresponding recompliance with the accepted peacetime standards. This has resulted in jeopardizing the peacetime concept of marine safety.

It is an anomaly that the Coast Guard, as the Federal marine safety agency, itself supported legislation for the extension of the waiver authority to March 31, 1948. It did this reluctantly; there was no other alternative. It supported this waiver extension on the basis of a most serious and urgent problem of the American merchant marine—the acute shortage of American passenger vessels.

There is no need to duplicate or augment the volume of statistics already submitted to support the known conclusions regarding the need for passenger-carrying vessels and other specialized vessels to provide for a modern and well-balanced American merchant marine. However, the Coast Guard does wish to give supplemental emphasis and focus attention to the passenger vessel vacuum in which the merchant marine is now operating.

Into the obvious vacuum of passenger vessel tonnage there has been drawn for example some 15 C-4 cargo

built and converted transports, grossly inadequate though they be, for passenger-carrying needs. These vessels with a reputed combined capacity of 14,000 passengers are not passenger vessels in the accepted or legal sense of the term. They are war-built vessels authorized to carry passengers by virtue of the "waiver" expedient. These vessels are simply the worst possible kind of advertisement. To continue using the vessels longer than is absolutely necessary will only further jeopardize the concept of marine safety and inflict irreparable damage to the prestige of our merchant marine.

The problem poses a true dilemma. On one horn, we have a serious deficiency of full-compliance passenger vessels; on the other horn, the only available vessels adaptable to the needs at any cost, do not meet with proven safety standards. Passenger vessel safety, to be effective, must be built in; it cannot be tacked on after a structure is designed for some other purpose.

Obviously the dilemma is without a clear-cut immediate solution. But the final solution is clear—new passenger-vessel construction. This solution requires immediate and positive action as further delay will only add to the complexities involved. In the meantime a temporary solution must be found. This brings into question the applicable minimum standards which will be required for these existing waiver-type vessels. Considering the practicalities involved, the absolute minimum of safety standards for these vessels must be those standards of the International Convention for Safety of Life at Sea, 1929, to which the United States is a signatory.

The question of standards also arouses interest in nonwaiver-type vessels. Admittedly, American marine safety standards are higher than those applicable to corresponding foreign vessels and this fact does work a competitive disadvantage to American privately owned shipping operations. However, if as a nation we are to maintain genuine concern for the safety of life and property at sea we must seek to raise the standards of our foreign competitors rather than reduce American standards.

As one step toward the betterment of an American merchant marine the Coast Guard recommends that construction of new passenger and new specialized-cargo vessels be immediately undertaken and that such vessels be in full compliance with all existing American safety standards.

If not safety—what then?

1947 INTERNATIONAL MEETING ON RADAR, RADIOBEACONS, DECCA, AND LORAN

Over a period of many years prior to World War II, there were practically no new developments of any significance in the field of marine radio aids to navigation, other than the radio direction finder and the associated radiobeacon system. By the close of the war, this situation became entirely reversed. So many new devices and methods had been developed in this field by several nations, that it soon became apparent that an international exchange of information and requirements was necessary to determine which of the new radio aids had permanent, peacetime applicability to marine use. The initial step in this direction was taken by the United Kingdom in calling a world meeting at London in May 1946. This meeting, the first of its kind, was officially termed the International Meeting on Radio Aids to Marine Navigation (IMRAMN) and was attended by the principal maritime nations of the world.

The first meeting was an informal, technical meeting, its objects being to inform other countries of what had been done in the United Kingdom during the war, what was being done in the immediate postwar period, to seek information on similar work in other countries and to discuss international standardization of radio aids to marine navigation as a preliminary step towards a measure of international agreement and cooperation in future developments. The end result of the first meeting was that it served to introduce basic systems and ideas, to emphasize the absolute need for a set of operational standards against which all radio navigational systems could be examined in the same perspective, but no definite commitments, resolutions or standardizations were accomplished.

As reported in the May 1947 (Vol. 4, No. 5) issue of these PROCEEDINGS, the second meeting of this type, known as the International Meeting on Marine Radio Aids to Navigation (IMMRAN), was held in May 1947, at New York, N. Y., and New London, Conn. The purpose of the second meeting was the presentation of broad and objective views on world marine radio aids to navigation problems and suggested solutions to the problems. In addition, the opportunity was afforded for the display and demonstration to the delegates of United States approved marine radio aids to navigation.

Equipments displayed at the New York headquarters included radar, loran, fathometers, radio direction finders, and associated equipments. At the New London headquarters there were on display several ramark transmitters, and complete loran and

radiobeacon transmitting stations in actual operation.

Three days of the meeting were devoted to operational trials of the United States equipment, at sea in the New London vicinity, by the delegates themselves. Radar demonstrations were held on the Maritime Commission training ship *American Sailor*, which had aboard five commercial model equipments operating in the 3 and 10 centimeter bands. The radars were physically arranged so that simultaneous observations could be made on both bands, permitting a ready evaluation of the advantages and disadvantages of each frequency, under the conditions of rain squalls, fog, and some chop, which prevailed. In order to demonstrate the effectiveness of radar corner reflectors, special buoys equipped with these radar aids were installed close to standard buoys without corner reflectors. An increase of from 50 to 100 percent in detection range was achieved in the case of the buoys equipped with radar corner reflectors. The degree of increased detection range was, of course, dependent upon the radar antenna height. Also demonstrated for the first time on a large scale, was the possible future application of ramark as a radar aid. This device transmits special radio

signals which appear as a visible beam on the radar scope, giving azimuthal indication to ramark stations of known position.

Loran demonstrations of four different commercial makes of equipment were held on the Coast Guard cutter *Campbell*. The delegates were given about 10 to 15 minutes of individual instruction in the operation of loran, and then were allowed to use the equipment alone. A large sailing chart of the area was conveniently installed on the bulkhead, and a quartermaster, receiving 5-minute positions from visual observations on the bridge, kept a running fix plotted, against which the delegates could verify the positions they had obtained on their charts by loran. The results bordered on the spectacular. In no case did the positions obtained by these untrained observers vary more than a few hundred yards from the actual position of the vessel. This was the first extensive demonstration of the utility of loran as a short to medium distance position fixing system, as well as a long range type. The results of these demonstrations indicate that possibly two systems, radar and loran, may eventually completely fill the needs for short, medium, and long range navigation, instead of three separate systems as originally proposed.



Taking and plotting Loran readings aboard demonstration vessel at sea. Reading left to right: Commander K. P. Ryzhkov, Russia; Rear Adm. J. E. M. Ranneft, Netherlands; and Mr. T. R. Clarkson, New Zealand.

Demonstrations of shoran (a war-time developed short range position-fixing system) and other hydrographic instruments and facilities were held aboard the Coast and Geodetic Survey ship *Lydonia*. Many of the foreign delegates showed great interest in shoran, being impressed by the accuracy and ease of operation of the equipment. Several countries are beginning charting activities requiring a high order of accuracy, such as is obtainable from shoran, because of numerous sunken hulks and other underwater hazards.

While in the early stages of the second meeting a marked divarication of views was evident, principally between the United Kingdom and the United States, these differences were reconciled to an unusually high degree. In contrast to the first meeting, definite conclusions, recommendations, and views were expressed, all of which sooner or later will contribute to increased safety at sea and increased efficiency in operation of marine shipping. Briefly, some of the more important expressions of the meeting were as follows:

(a) High-resolution radar was recognized as a device having wide applicability to merchant marine use for anti-collision, pilotage, above water obstacle detection, and general position fixing when within radar range.

(b) In the short and medium distance position-fixing field, the system of shipborne medium frequency radio direction finders and associated radio-beacons continues to fulfill a useful function in making landfall, in coastal navigation, and for search and rescue. Where these systems are already established, they should be improved and expanded. Decca (a wartime medium range position-fixing system developed by the United Kingdom) was recognized as a new system having possible application in certain regions (as the Baltic and North Seas), and after it is proven by operational trial, it should be improved and expanded in regions where nations concerned consider it desirable.

(c) In the long distance position-fixing field, the superiority of loran over consol, a competing system, was recognized. Recommendation was made that standard loran should be continued and improved, and should be expanded wherever it can jointly serve both marine and aviation users to mutual advantage.

In addition to numerous prominent scientists and engineers, technical papers were presented by a large group of Coast Guard, Navy and Maritime personnel. Among the latter were Rear Ad. Telfair Knight, USMS, Commandant, United States Maritime Commission, who spoke on United States Maritime Commission

Electronic Navigation Training Program; Commodore Harry Manning, USMS, master, steamship *America*, who delivered a paper on Standard Loran in the Merchant Marine and Dr. C. M. Jansky, Jr., consultant, Lake Carriers' Association, who spoke on The Application of Marine Radar to Lake, River, and Passage Navigation.

Marine Information Broadcasts

A schedule of marine information broadcasts has been adopted by the Coast Guard and appears in table form below for ready reference. This schedule of broadcasts includes the regular broadcasts of weather forecasts, notices to mariners, and hydrographic information, as well as emergency broadcasts regarding storm warnings, advisories, and urgent marine information, but does not include the Great Lakes and the inland waters. The marine information concerns the Atlantic coast, Gulf coast, and Pacific coast, Territory of Alaska, and the Territory of Hawaii.

The stations designated to broadcast storm warnings, advisories, and

urgent marine information by radiotelegraph will do so upon receipt of the information. This information will be repeated three times within the next period of 6 hours, on either the even or the odd hour, depending upon the station, unless the information is superseded or canceled. Any emergency information which superseded a previous broadcast will be handled in the same manner as the original information and will extend the emergency broadcast an additional 6 hours.

All radiotelegraph broadcasts will be made on the stations' working frequencies after preliminary announcements are made on 500 kilocycles with subsequent shifts to indicate station working frequencies. All radiotelephone broadcasts will be preceded by appropriate announcements on 2670 kilocycles with the regular broadcasts to follow on 2698 kilocycles. All radiotelephone broadcasts will be made once through at a good writing speed.

This information replaces that published on page 50 in the March 1947 PROCEEDINGS OF THE MERCHANT MARINE COUNCIL.

STATIONS BROADCASTING MARINE INFORMATION

Station and call letters	Time (G. C. T.)	Frequency (kc.)	Emission	Nature of broadcast
Rockland, Maine (NOR)	1730 Upon receipt and on even hour intervals.	2698 2698	A-3 A-3	Regular broadcasts. Emergency broadcasts.
Boston, Mass. (NMF)	0548 and 1748 0400 and 1600 Upon receipt and on even hour intervals. Upon receipt and on odd hour intervals.	2698 425 425 2698	A-3 A-1 A-1 A-3	Regular broadcasts. Do. Emergency broadcasts. Do.
New York, N. Y. (NMY-2)	0400 and 1600 Upon receipt and on even hour intervals.	474 474	A-2 A-2	Regular broadcasts. Emergency broadcasts.
New York, N. Y. (NMY)	0400 and 1600 Upon receipt and on odd hour intervals.	2698 2698	A-3 A-3	Regular broadcasts. Emergency broadcasts.
Philadelphia, Pa. (NMK)	0500 and 1700 0518 and 1718 Upon receipt and on odd hour intervals. Upon receipt and on even hour intervals.	425 2698 425 2698	A-1 A-3 A-1 A-3	Regular broadcasts. Do. Emergency broadcasts. Do.
Baltimore, Md. (NMN-7)	1748 Upon receipt and on odd hour intervals.	2698 2698	A-3 A-3	Regular broadcasts. Emergency broadcasts.
Norfolk, Va. (NMN)	0430 and 1630 0400 and 1600 Upon receipt and on even hour intervals. Do.	2698 410 410 2698	A-3 A-1 A-1 A-3	Regular broadcasts. Do. Emergency broadcasts. Do.
Fort Mason, N. C. (NMN-37)	1718 Upon receipt and on odd hour intervals.	2698 2698	A-3 A-3	Regular broadcasts. Emergency broadcasts.
Charleston, S. C. (NMB)	0548 and 1748 Upon receipt and on even hour intervals.	2698 2698	A-3 A-3	Regular broadcasts. Emergency broadcasts.
Mayport, Fla. (NMV)	0500 and 1700 Upon receipt and on odd hour intervals. Do.	2698 2698 464	A-3 A-3 A-1	Regular broadcasts. Emergency broadcasts. Do.
Miami, Fla. (NMA)	0430 and 1630 Upon receipt and on even hour intervals.	425 421	A-1 A-1	Regular broadcasts. Emergency broadcasts.

STATIONS BROADCASTING MARINE INFORMATION—Continued

Station and call letters	Time (G. C. T.)	Frequency (kc.)	Emission	Nature of broadcast
Key West, Fla. (NOK)	0418 and 1618 Upon receipt and on even hour intervals.	2698 2698	A-3 A-3	Regular broadcasts. Emergency broadcasts.
St. Petersburg, Fla. (NOP)	0518 and 1718 Upon receipt and on even hour intervals.	2698 2698	A-3 A-3	Regular broadcasts. Emergency broadcasts.
Mobile, Ala. (NOQ)	0530 and 1730 Upon receipt and on odd hour intervals. Upon receipt and on even hour intervals.	2698 464 2698	A-3 A-1 A-3	Regular broadcasts. Emergency broadcasts. Do.
New Orleans, La. (NMO)	0400 and 1600 Upon receipt and on even hour intervals.	448 448	A-2 A-2	Regular broadcasts. Emergency broadcasts.
Galveston, Tex. (NOY)	0400 and 1600 Upon receipt and on even hour intervals. Upon receipt and on odd hour intervals.	2698 425 2698	A-3 A-1 A-3	Regular broadcasts. Emergency broadcasts. Do.
San Juan, P. R. (NMR)	0300 and 1500 0330 and 1530 Upon receipt and on even hour intervals. Upon receipt and on odd hour intervals.	2698 127 127 2698	A-3 A-1 A-1 A-3	Regular broadcasts. Do. Emergency broadcasts. Do.
Long Beach, Calif. (NMQ)	0400 and 1600 0400 and 1600 Upon receipt and on odd hour intervals. Upon receipt and on even hour intervals.	425 2698 2698 425	A-1 A-3 A-3 A-1	Regular broadcasts. Do. Emergency broadcasts. Do.
Monterey, Calif. (NOJ)	0448 and 1648 Upon receipt and on even hour intervals.	2698 2698	A-3 A-3	Regular broadcasts. Emergency broadcasts.
San Francisco, Calif. (NMC-2)	0400 and 1600 Upon receipt and on even hour intervals.	418 418	A-2 A-2	Regular broadcasts. Emergency broadcasts.
San Francisco, Calif. (NMC)	0418 and 1618 Upon receipt and on odd hour intervals.	2698 2698	A-3 A-3	Regular broadcasts. Emergency broadcasts.
Seattle, Wash. (NMW)	0430 and 1630 0500 and 1700 Upon receipt and on even hour intervals. Do.	425 2698 425 2698	A-1 A-3 A-1 A-3	Regular broadcasts. Do. Emergency broadcasts. Do.
Ketchikan, Alaska (NMJ)	0530 and 1730 0530 and 1730 Upon receipt and on even hour intervals. Do.	410 2698 410 2698	A-1 A-3 A-1 A-3	Regular broadcasts. Do. Emergency broadcasts. Do.
Honolulu, T. H. (NMO)	0630 and 2130 0600 and 2100 Upon receipt and on local odd hour intervals. Do.	2698 425 2698 425	A-3 A-1 A-3 A-1	Regular broadcasts. Regular broadcasts. Emergency broadcasts. Do.

Bell System Coast Harbor Station

Station	Call letters	Frequency (kc.)	Present G. C. T. schedule
Boston, Mass.	WOUE	2506	0420-1620
New York, N. Y.	WOX	2522	0330-1530
Wilmington, Del.	WEH	2538	0430-1630
Norfolk, Va.	WOB	2538	0400-1600
Charleston, S. C.	WJO	2566	0400-1600
Miami, Fla.	WDR	2514	0400-1600
Tampa, Fla.	WFA	2530	0400-1600
New Orleans, La.	WAK	2598	0400-1600
Galveston, Tex.	KQP	2530	0100-1830
San Pedro, Calif.	KOU	2566	0400-1600
San Francisco, Calif.	KLIH	2506	0430-1630
Eureka, Calif.	KOE	2506	0500-1700
Portland, Oreg.	KQX	2598	0210-1940
Seattle, Wash.	KOW	2522	0200-1930
Astoria, Oreg.	KFX	2598	0200-1930

HEARING UNITS

Coast Guard merchant marine investigating units and merchant marine details investigated a total of 1,165 cases during the month of March 1947. From this number hearings resulted involving 44 officers and 165 unlicensed men. In the case of officers no license was ordered revoked, 14 were suspended, 18 were suspended on probation, 4 were voluntarily surrendered, 2 were closed with admonition, and 5 cases were dismissed. Of the unlicensed personnel 13 certificates were revoked, 87 were suspended, 66 were suspended on probation, 28 were voluntarily surrendered, 4 were closed with admonition, and 4 were dismissed after hearing.

In fog, if you hit another vessel you are self-convicted of excessive speed because you have used all the visibility and are still going

RULES OF THE ROAD

Pilot Rules—Obey Them and Avoid Collisions

Knowledge of the Pilot Rules is not enough to prevent collisions. To navigate safely you must know the Pilot Rules and obey them. The other fellow assumes you know your business and will follow the rules but that is only part of the story. To know the course and approximate speed of the other vessel is the other part and this can be done in many ways; through

the lookout, by bearings and general observation. Had any one of the last three means been used, this article would have been unnecessary.

Article 29 of the International Rules to Prevent Collisions of Vessels says:

"Nothing in these rules shall exonerate any vessel, or the owner or master or crew thereof, from the consequences of any neglect to carry lights or signals, or of any neglect to keep a proper lookout, or of the neglect of any precau-

tion which may be required by the ordinary practice of seamen, or by the special circumstances of the case."

A collision which recently occurred shows particularly the need to maintain a proper lookout and the results which may occur if an alert lookout is not maintained. In this case the weather was clear, the sea smooth, and it was during daylight hours when the accident occurred. The * * * Victory, with a cargo of coal was en

route from the Delaware Capes for Europe and steering a course of 80° true.

The second mate had returned to the bridge from the messroom, he having been relieved by a junior officer who stood his watch while he had his supper. Eleven minutes later his vessel was rammed on the starboard side in the way of No. 4 hatch by a tanker.

The tanker involved in this accident was en route from a Gulf port to New York, steering a course of 356° true and making a speed of about 16 knots. The chief mate, who was on watch at the time, observed the Victory ship about 4 points on his port bow approximately 30 minutes before the accident took place. The tank vessel in this situation was the privileged ship and was required by law to maintain its course and speed. The chief mate about 20 minutes after sighting the Victory ship, noticing no action on the part of that vessel to give way, called the master to the bridge. The master took charge, and after holding his course and speed until it became apparent that a collision could not be avoided without action on his part, ordered a hard right rudder, reversed his engines and blew three blasts on the whistle. However, it was too late and his vessel struck the Victory ship.

The officer on watch on the Victory ship testified that he did not know of the presence of the other vessel until he heard the whistle, and upon hearing the whistle he dashed out of the wheelhouse and observed the tanker bearing down on him only two or three hundred feet away. In this situation there was very little action he could take and it is apparent that he was considerably startled and confused, as was shown by the numerous and contradictory helm orders he issued, none of which were effective.

In this case, the courses of the vessels were 84° apart or nearly at right angles, which is as clear a crossing situation as can be found. The visibility was practically unlimited and having in mind the height of the

bridges of the vessels above water, the officers of each vessel should have seen the other vessel when they were at least 15 miles apart, and as they were making approximately the same speed it would require about 40 minutes from the time of sighting each other until the vessels reached the point where their courses intersected.

The mate on the tanker stated that he did see the other vessel for well over 30 minutes. However, on the Victory ship neither the junior officer who was relieving the second mate for supper, and who had presumably been on the bridge some 30 minutes, nor the second officer saw the tank vessel until it was too late. Had the second officer before relieving the junior officer gone out on the wings of the bridge and taken a good look around the horizon he could not possibly have missed seeing the other vessel. What the junior officer was doing during the time he was on the bridge is hard to understand.

In cases of this sort, and there have been a number of them, very little sympathy can be given to the officer in charge of the burdened vessel. The officer who is in real need of sympathy is the master of the privileged vessel as he must hold his course and speed and trust to the grace of God and good luck that the other fellow is maintaining a proper lookout as required by the law.

From the foregoing it will be seen that Article 19 of the International Rules to Prevent Collisions, which requires that a vessel having another on her own starboard bow must keep clear of the other, was violated.

The primary and initial cause was the violation of Article 29, failing to maintain a proper lookout.

As the result of this accident well over \$100,000 damage was done and the license of the second officer of the Victory ship was suspended.

This should be a lesson to all watch officers, showing that regardless of weather conditions an alert lookout must always be maintained.

THE VARIOUS RULES AND REGULATIONS AND THE AREAS IN WHICH THEY APPLY

INTERNATIONAL RULES

The International Rules apply on the high seas, and on most other waters throughout the world outside the inland waters of the United States and its territories.

INLAND RULES AND PILOT RULES

The Inland Rules and Pilot Rules apply on all waters of the United States and territories inside the lines separating them from the high seas with the following exceptions:

The Great Lakes and their connecting and tributary waters, and the St. Lawrence River as far east as Montreal.

The Red River of the North.

The rivers emptying into the Gulf of Mexico and their tributaries.

GREAT LAKES RULES AND PILOT RULES FOR THE GREAT LAKES

The Great Lakes Rules and the Pilot Rules for the Great Lakes apply on the Great Lakes and their connecting and tributary waters and on the St. Lawrence River as far east as Montreal.

WESTERN RIVERS RULES AND PILOTS RULES FOR WESTERN RIVERS

The Western Rivers Rules and Pilot Rules for Western Rivers apply on the Red River of the North and rivers emptying into the Gulf of Mexico and their tributaries.

THE MOTORBOAT ACT OF 1940

The rules in this act apply to motorboats, as defined in the act, on all the navigable inland waters of the United States, including Great Lakes and rivers emptying into the Gulf of Mexico.

LESSONS FROM CASUALTIES

FIRE

In many cases fire on a vessel is caused by explosion, lightning, or from some other reason which may be described in general terms as an act of God. However, many such casualties, of which the following is a good example, result from carelessness, poor organization or from some other cause which can easily be remedied.

Recently a steamer operating on

one of the western rivers tied up at the bank one evening. The boilers were cooled down and the pilot and chief engineer left the vessel on the way to their homes. One fireman, three deck hands, and a cook were left on board.

It seems that the galley was equipped with a stove originally designed to burn coal. This stove was converted by the engineer to burn oil as it had been found difficult to obtain

coal. On the morning of the casualty a derrick boat, belonging to the same company that owned the steamer in question, was lying about 100 yards up the river from the steamer. According to the testimony of crew members of the derrick boat one of the deck hands on the steamer was seen going to the galley before daybreak. The Coast Guard was unable to contact this deck hand, but presumes that he started the fire in the

galley stove in order to prepare breakfast. Apparently he left the galley unattended with the fire going in the stove. At any rate, at about daybreak the cook heard a whistling noise, opened the door and saw smoke and flames all over the stern of the vessel. No attempt was made to put out the fire as it was said to be too far gone for effective fire fighting by the time it was discovered. As nearly as can be determined, some member of the crew, presumably the missing deck hand, started the fire in the stove and left it unattended until it flooded the entire galley with fuel oil and fire and badly damaged the vessel.

It was found that the stove had been altered from coal to oil without the proposed installation having been checked and approved by the Coast Guard. Inasmuch as the installation was destroyed, it cannot now be determined whether it was faulty in design, but this may well be the case, and coupled with the slack organization of a vessel which permitted a crew member to start a fire and then go off and leave it unattended, was responsible for the destruction of the upper part of this vessel.

The remedy here is obvious. Any alterations which involve the burning of oil, whether in the galley or in the fire room, should be submitted to the nearest Officer in Charge, Marine Inspection, for checking before being put into execution, and certainly no fire, particularly an oil fire should ever be left unattended. If these two rules had been observed in the foregoing case the vessel would probably never have been burned.

DEATH LURKS IN VOID SPACES

The following factual report of the death of a seaman was received at Coast Guard Headquarters:

"JGG was asphyxiated in the No. 2 port deep ballast tank on 9 November on board the subject vessel at sea, an American Flag Liberty Ship of 7,176 gross tons.

"At about 1630 on 9 November, JGG, the boatswain, was ordered by the first officer to open No. 2 deep tank, which had contained salt water ballast, for the purpose of cleaning rose box strainers. Immediately after opening this tank, the boatswain climbed down into it, followed by an able seaman, GK. However, GK did not continue down to the bottom of the tank. He felt faint when about half-way down and climbed out again. He then observed that the boatswain was lying on the bottom of the tank, apparently unconscious. GK went aft and notified a group of seamen and the master of what had happened. The utilityman was the first to reach the deep

tank, into which he immediately descended and was overcome on arriving at the bottom.

"At this point, the first officer arrived on the scene from the bridge where he had been on watch, and seeing the two unconscious forms in the tank he descended and was also overcome upon reaching the bottom.

"The master then arrived and directed an engineer to don an oxygen-breathing mask and go down into the tank with a line. The first man hoisted out was the utilityman, followed by the first officer and then the boatswain. Artificial respiration was applied to all three men and both the first officer and the utilityman recovered sufficiently to be assisted to their quarters. Artificial respiration was continued on the boatswain. However, he showed no signs of life, having been in the tank between 20 and 30 minutes.

"The master headed his vessel for port and radioed for medical assistance. The vessel arrived in port shortly after midnight and at about 0205 medical assistance reached the ship, at which time an oxygen-inhaler was used in an effort to revive the boatswain, but without results. At 0220 he was declared dead by a medical officer from shore."

The foregoing is another actual case of asphyxiation from lack of oxygen, a subject which has been brought to the attention of seamen at intervals for a number of years. Sometimes it seems as though the seamen would never learn the inherent dangers of void spaces.

Before proceeding further it must be explained that oxygen-breathing apparatus and flame safety lamps are not required by regulation on board freight ships. However, when such equipment is on board it should be kept in good working order and the officers and crew should be familiar with the use of it. If it is not functioning properly it is more dangerous than none at all.

The record of this investigation indicates several things. First, the vessel was furnished with oxygen-breathing apparatus, which apparently was in good working order as an engineer was able to wear this apparatus and go into the deep tank.

Secondly, the senior mate and leading seaman, the boatswain, were apparently ignorant of the fundamental dangers inherent in a tank which had been closed up and which had not been properly ventilated.

Third, the fatal error in this case was that the boatswain "immediately" entered the tank.

Fourth, the boatswain did not have a lifeline attached to himself.

There is no excuse for a happening of this sort on any vessel, as no person

should enter a tank which has been closed, without a line attached to him and attended by a person outside the tank so that he can be hauled out if necessary.

Had the boatswain, upon opening the tank, aired it out by means of a blower or windsail, this tragedy would not have happened. Instead, he immediately entered the tank. Had the chief officer had sense enough to realize what had happened upon looking into the tank and seeing the two men lying there he would have taken immediate action looking to introducing air into the tank and obtaining the oxygen-breathing apparatus. Had these been done it is possible that the boatswain might have been removed in sufficient time so that artificial respiration would have been effective.

The following information, which has been quoted many times before, is repeated as a warning:

"Normal air contains approximately 21-percent oxygen. When the oxygen content is lowered to 16 percent, men may be able to work, but with greatly decreased efficiency. When the oxygen content decreases to between 8 to 11 percent, the average man loses consciousness and death will ensue from oxygen starvation. At 6 percent oxygen content, death results in from 6 to 8 minutes."

The Navy recognizes the dangers of void spaces, double bottoms, cofferdams and tanks, in that their regulations require in part that such compartments or spaces shall be opened and thoroughly ventilated, using a supply blower or compressed air, if possible.

It may be wondered why there was an oxygen deficiency in the deep tank of the subject vessel. This can be inferred from the fact that the deep tank was closed, had contained salt water ballast which was pumped out, and that the moisture remaining on the bulkheads and sides undoubtedly started oxidation of the metal (rusting) which rapidly depleted the oxygen in the space.

Officers on merchant vessels might well ask themselves these questions: Is there respiratory apparatus on board?

Is it in good working order?

Do I know how it functions?

Has the crew been instructed in the use of this equipment?

What precautions should be taken before entering a tank or void space which has been closed?

If the officers on this vessel had been on the job and taken the few minutes needed to properly instruct the boatswain concerning the hazards of empty tanks, one more seaman would have been alive to enjoy a holiday with his shipmates or family.

APPENDIX

Amendments to Regulations

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter IV—Coast Guard: Navigational Aids

[CGFR 47-28]

PART 402—AIDS TO NAVIGATION

MISCELLANEOUS AMENDMENTS

Pursuant to the provisions of section 4 of the Administrative Procedure Act (June 11, 1946, 60 Stat. 237), a notice of a public hearing to consider regulations for lights, signals and colors for mooring buoys was published in the *FEDERAL REGISTER*, dated April 12, 1947 (12 F. R. 2410). The proposed amendments were published in that Notice, and since no comments were submitted and no one attended the public hearing, I therefore, by virtue of the authority vested in me by the act of June 17, 1910, as amended (33 U. S. C. 713, 759) prescribe the following amendments to the regulations to become effective on the thirty-first day after the date of publication in the *FEDERAL REGISTER*.

Part 402 is amended by the addition of two new sections, reading as follows:

§ 402.01 *Basis and purpose.* Pursuant to the authority in the act of June 17, 1910, as amended (33 U. S. C. 713, 759) the regulations in this part are prescribed to provide a standard by which devices relating to the general safety of navigation are established and maintained, also to provide an efficient, uniform and economic administration of this service.

§ 402.17 *Mooring buoys: lights, signals and colors.* The approval of lights, signals and colors for properly authorized mooring buoys (33 U. S. C. 403) must be obtained, prior to establishment, from the District Commander of the Coast Guard district in which the structure will be situated. Applications for such approval shall be submitted on Coast Guard Form 2554 in accordance with the procedure set forth in § 402.4, insofar as they are applicable to the particular case.

(34 Stat. 324 as amended; 33 U. S. C. 759)

Dated: May 21, 1947.

[SEAL] E. H. FOLEY, Jr.,
Acting Secretary of the Treasury.

(12 F. R. 3408, May 27, 1947)

Waivers

TITLE 46—SHIPPING

Chapter I—Coast Guard: Inspection and Navigation

Appendix A—Waivers of Navigation and Vessel Inspection Laws and Regulations

MERCHANT CARGO AND TANK VESSELS

CONDITIONAL WAIVER OF MANNING REQUIREMENTS

Pursuant to the authority vested in the Commandant, U. S. Coast Guard, by the act of March 31, 1947 (Public Law No. 27, 80th Congress), I hereby find it necessary in the orderly reconversion of the merchant marine from wartime to peacetime operations to cancel, effective June 1, 1947, the order dated April 8, 1943, as amended; (8 F. R. 4736), which conditionally waived certain of the manning requirements with respect to merchant cargo and tank vessels engaged in business connected with the conduct of the war; *Provided*, That nothing herein shall impair the continuing effectiveness of waivers effectuated on or before June 1, 1947, pursuant to said order of April 8, 1943, as amended.

Pursuant to the authority vested in the Commandant, U. S. Coast Guard, by the act of March 31, 1947 (Public Law No. 27, 80th Congress), I find, further, that the waiver of the navigation and vessel inspection laws and regulations administered by the Coast Guard is necessary in the orderly reconversion of the merchant marine from a wartime to normal peacetime basis, to the extent and in the manner and upon the terms and conditions set forth in the succeeding numbered paragraphs.

1. *Purpose of waiver.* It has been determined upon investigation that there is a shortage of experienced and qualified personnel in the merchant marine industry and that as a result

of such shortage the masters of merchant cargo vessels and tank vessels engaged in any trade or commerce deemed necessary in the orderly reconversion of the merchant marine from wartime to peacetime operations have been unable to obtain the number of experienced personnel required for their vessels by or pursuant to law or regulation. Therefore, to avoid delays in the sailings of such merchant vessels, to insure that such vessels have on board the best qualified crews available, to provide a simplified and uniform procedure for accomplishing the foregoing and otherwise to further the orderly reconversion of the merchant marine, this Conditional Waiver of Manning Requirements is issued (12 F. R. 2348, 20 May, 1947).

2. *Vessels affected.* All merchant cargo and tank vessels registered, or enrolled and licensed under the laws of the United States shall be considered to be engaged in a trade or commerce associated with the reconversion of the merchant marine from wartime to peacetime operations so long as this Conditional Waiver of Manning Requirements remains in effect, or unless a local representative of the United States Maritime Commission informs the appropriate Coast Guard District Commander or Officer in Charge, Marine Inspection, that a particular vessel or vessels in either of such classes should not be so included. This waiver is inapplicable to all ocean and coastwise passenger vessels and vessels carrying troops.

3. *Extent, terms, and conditions of waivers.* The master of any cargo vessel or tank vessel engaged in any trade or commerce associated with the reconversion of the merchant marine from wartime to peacetime operation may if such action is necessary to permit such vessel to sail without delay substitute for any licensed officer required as part of the complement of such vessel by or pursuant to law or regulation, any licensed officer of lower rank who is an American citizen or any certificated seaman who is an American citizen, and may substitute for any rated seaman required as part of the complement any certificated seaman of lower rating provided that any such substitution is within the citizenship requirements established pursuant to law: *Provided*, That (a) the deficiency in complement is not caused by the consent, fault or collusion of the master, owner or any other person interested in the vessel, (b) the master, over a

reasonable period prior to the time fixed for the signing on of his crew, makes every reasonable effort to obtain such required licensed officer or rated seaman, (c) the person substituted for such required licensed officer or rated seaman is, in the opinion of the master, the best qualified substitute therefor that the master could obtain, (d) the master is of the opinion that the vessel is sufficiently manned for the contemplated voyage, and (e) the master, prior to departure prepares, executes, certifies, and files with, or sends to the Shipping Commissioner before whom the crew was signed on or, in cases when the crew is not required to be signed on before a Shipping Commissioner, to the nearest Officer in Charge, Marine Inspection, two copies of a report of each substitution made. One copy of such report shall also be submitted to the Collector of Customs at the time when application for clearance is made. In making such report Coast Guard Form 729 shall be used. (12 F. R. 2348 May 20, 1947).

4. **Penalties.** The failure of the master of any vessel departing with a deficiency in the required complement therefor to execute and submit the reports required hereunder, or a false certification in any such report by such master shall be considered misconduct within the meaning of R. S. 4450, as amended, 46 U. S. C. 239, and shall constitute grounds for suspension or revocation of the license of such master; and shall subject him and the owners to all other penalties provided by law. No penalty shall be imposed as a consequence of any substitution made in accordance with this regulation.

5. **Effective date.** This order shall be in effect on and after June 1, 1947. Because of the technical character of this revision of regulations, and because of the urgency of providing waiver authority in order to effectuate the orderly reconversion of the merchant marine to peacetime operations, it is found that compliance with the notice, public rule making procedure, and effective date requirements of the Administrative Procedure Act (Public Law 404, 79th Cong.; 60 Stat. 237) is impracticable and contrary to the public interest.

(Pub. Law 27, 80th Cong.)

Dated: May 14, 1947.

[SEAL] J. F. FARLEY,
Admiral, U. S. Coast Guard,
Commandant.

PROCEDURES FOR EFFECTING INDIVIDUAL
WAIVERS OF NAVIGATION AND VESSEL
INSPECTION LAWS AND REGULATIONS

Pursuant to the authority vested in the Commandant, U. S. Coast Guard, by the act of March 31, 1947 (Public

Law No. 27, 80th Congress), I hereby find it necessary in the orderly reconversion of the merchant marine from wartime to peacetime operations to cancel, effective June 1, 1947, the order dated July 1, 1943, as amended (8 F. R. 9164), which, subject to certain conditions, waived compliance with navigation and vessel inspection laws with respect to vessels engaged in business connected with the conduct of the war; provided that nothing herein shall impair the continuing effectiveness of waivers effectuated on or before June 1, 1947, pursuant to said order of July 1, 1943, as amended.

Pursuant to the authority vested in the Commandant, U. S. Coast Guard, by the act of March 31, 1947 (Public Law No. 27, 80th Congress), I find, further, that the waiver of compliance with the navigation and vessel inspection laws administered by the Coast Guard is necessary in the orderly reconversion of the merchant marine from a wartime to normal peacetime basis, to the extent and in the manner and upon the terms and conditions set forth in the succeeding numbered paragraphs. (12 F. R. 2348 May 20, 1947):

1. An application requesting that a waiver be made effective with respect to a particular vessel may be made by any authorized representative of an agency of the United States Government or any other interested person (including the master, agent, or owner of the vessel involved). Except as provided in paragraph 3, the application shall be in writing. The application shall be delivered to the Coast Guard District Commander or to his designated representative at the port or place where the vessel is located. In the case of vessels in any port or place of the Canal Zone or in any foreign port or place, the application shall be made to the designated representative of the Commandant at such port or place or if the Coast Guard has not established facilities in such port or place to the nearest designated representative of the Commandant at a port or place where such facilities have been established. Every application shall contain a statement of the particular provisions of law with respect to which waiver of compliance is requested, a certification that the waiver of compliance with such laws with respect to the vessel involved is necessary in the orderly reconversion of the merchant marine, and an outline of the facts upon which such certification is based. The Coast Guard District Commander (or his designated representative, or the designated representative of the Commandant, as the case may be) shall promptly examine every application for the purpose of determining

whether the necessity for prompt action is such as to require that the waiver be made effective by him without reference to Headquarters. In any case in which it appears to the Coast Guard officer concerned that reference of the application to Headquarters for action would not delay the sailing of the vessel or otherwise impede the orderly reconversion of the merchant marine, the application shall be so referred. In all other cases such Coast Guard officer shall give immediate consideration to the application and if he reaches the conclusion that urgency of the situation outweighs the marine hazard involved, then such waiver shall be effective in regard to such vessel to the extent and under the circumstances specified by him.

2. The Coast Guard officer making such waiver effective pursuant to paragraph 1 shall immediately prepare, in triplicate, an order setting forth the name of the vessel involved, the laws with respect to which the waiver is effective, the extent to which compliance with such laws is waived, and the period for which the waiver shall be effective. If practicable, one copy of this order shall be delivered to the master of the vessel involved before such vessel sails. In cases where the order is not delivered to the master, it shall be delivered to the owner, operator, or agent of the vessel without delay. One copy of the order shall be transmitted to Coast Guard Headquarters and the remaining copy kept on file.

3. In cases of extreme urgency the application for waiver may be made orally, and if the Coast Guard District Commander or such representative reaches the conclusion referred to in paragraph 1, the waiver shall be effective without further delay, subject to a condition subsequent that the application be reduced to writing and delivered within such period after the date of the oral request as the Coast Guard officer making the waiver effective shall specify in the order.

4. No penalty shall be imposed because of failure to comply with any provision of law the waiver of which has been made effective pursuant hereto.

5. This order shall be in effect on and after June 1, 1947. Because of the technical character of this revision of regulations, and because of the urgency of providing waiver authority in order to effectuate the orderly reconversion of the merchant marine to peacetime operations, it is found that compliance with the notice, public rule making procedure, and effective date requirements of the Administrative Procedure Act (Public Law 404, 79th Cong.; 60 Stat.

237) is impracticable and contrary to the public interest.

(Pub. Law 27, 80th Cong.)

Dated: May 14, 1947.

[SEAL] J. F. FARLEY,
Admiral, U. S. Coast Guard,
Commandant.

(12 F. R. 2348, May 20, 1947)

EMPLOYMENT OF ALIENS AS UNLICENSED CREW MEMBERS

By virtue of the authority vested in me by the act of March 31, 1947

(Public Law No. 27, 80th Congress), I hereby amend the order dated June 13, 1942 (7 F. R. 4515), as amended, to read as follows:

I hereby waive compliance with the provisions of sections 302 (a), (b) and (c) of the act of June 29, 1936, 49 Stat. 1992 (46 U. S. C. 1132 (a), (b) and (c)), to the extent necessary to permit the employment of aliens in the unlicensed crew of subsidized vessels of the United States in a percentage not to exceed twenty-five

per centum of the entire unlicensed crew employed on any subsidized vessel of the United States. This waiver authority expires on June 1, 1947.

(Pub. Law 27, 80th Cong.)

Dated: April 28, 1947.

J. F. FARLEY,
Admiral, U. S. Coast Guard,
Commandant.

(12 F. R. 2997, May 3, 1947)

Equipment Approved by the Commandant

By virtue of the authority vested in the Commandant by R. S. 4405, 4417a, 4418, 4426, 4429, 4433, 4470, 4488, 4491, as amended, 49 Stat. 1384, 1544, 54 Stat. 163-167, 1028, sec. 5 (e), 55 Stat. 244 (46 U. S. C. 367, 369, 375, 391a, 392, 404, 407, 411, 463, 463a, 481, 489, 526-526t, 50 U. S. C. 1275), sec. 101, Reorganization Plan No. 3 of 1946 (11 F. R. 7875), the following approvals and termination of approvals are prescribed:

BUOYANT CUSHIONS FOR MOTORBOATS

Approval No. A-332, standard kapok buoyant cushion, for use on motorboats of Classes A, 1, and 2 not carrying passengers for hire, submitted by Affiliated Retailers, Inc., 350 Fifth Ave., New York, N. Y., manufactured by The American Pad and Textile Co., Greenfield, Ohio. (12 F. R. 2660, April 25, 1947).

Approval No. B-379, 11 $\frac{3}{4}$ " x 15" x 20 $\frac{3}{4}$ " x 21" x 2" trapezoidal kapok buoyant cushion, 26 oz. kapok, Dwg. No. NSC-1, dated April 8, 1947, for use on motorboats of Classes A, 1, and 2 not carrying passengers for hire, manufactured by Benton Harbor Awning and Tent Co., 136 Territorial Road, Benton Harbor, Mich. (12 F. R. 2660, April 25, 1947).

Approval No. B-380, 14" x 18" x 2" rectangular kapok buoyant cushion, 23 oz. kapok, Dwg. No. 4016, dated March 30, 1947; Approval No. B-381, 16" x 18" x 2" rectangular kapok buoyant cushion, 26 oz. kapok, Dwg. No. 4016, dated March 30, 1947; Approval No. B-382, 15" x 30" x 2" rectangular kapok buoyant cushion, 40 oz. kapok, Dwg. No. 4016, dated March 30, 1947; Approval No. B-383, 14" x 25" x 2" rectangular kapok buoyant cushion, 31 $\frac{1}{2}$ oz. kapok, Dwg. No. 4017, dated April 1, 1947; Approval No. B-384, 16" x 25" x 2" rectangular kapok buoyant cushion, 36 oz. kapok, Dwg. No. 4017, dated April 1, 1947; Approval No. B-385, 15" x 26" x 2" rectangular kapok buoyant cushion, 35 oz. kapok, Dwg. No. 4017, dated April 1, 1947; for use on motorboats of Classes A, 1, and 2 not carrying passengers for hire; manufactured

by Trojan Marine Manufacturing Co., Inc., 273-81 State Street, Brooklyn 2, N. Y. (12 F. R. 2660, April 25, 1947).

Approval No. B-386, 14" x 18" x 2" rectangular buoyant cushion, 20 oz. kapok, The American Pad and Textile Co. Dwg. No. B-66, dated February 23, 1946, for use on motorboats of Classes A, 1, and 2 not carrying passengers for hire, submitted by Affiliated Retailers, Inc., 350 Fifth Ave., New York, N. Y., and manufactured by The American Pad and Textile Co., Greenfield, Ohio. (12 F. R. 2660, April 25, 1947).

Approval No. A-333, Standard kapok buoyant cushion for use on motorboats of Classes A, 1, and 2 not carrying passengers for hire (Manufactured by The American Pad and Textile Co., Greenfield, Ohio), submitted by Montgomery Ward and Co., 619 West Chicago Ave., Chicago 7, Ill. (12 F. R. 3122, May 13, 1947).

Approval No. A-334, Standard kapok buoyant cushion for use on motorboats of Classes A, 1, and 2 not carrying passengers for hire (Manufactured by The American Pad and Textile Co., Greenfield, Ohio), submitted by Sears, Roebuck and Co., 925 South Homan Ave., Chicago 7, Ill. (12 F. R. 3122, May 13, 1947).

Approval No. A-335, Standard kapok buoyant cushion for use on motorboats of Classes A, 1, and 2 not carrying passengers for hire, manufactured by Design Upholsterers, 1945 Spielbusch Ave., Toledo 2, Ohio. (12 F. R. 3122, May 13, 1947).

Approval No. B-387, 13" x 18" x 2" rectangular kapok buoyant cushion, 20 oz. kapok, for use on motorboats of Classes A, 1, and 2 not carrying passengers for hire (Manufactured by The American Pad and Textile Co., Greenfield, Ohio), submitted by Montgomery Ward and Co., 619 West Chicago Ave., Chicago 7, Ill. (12 F. R. 3122, May 13, 1947).

Approval No. B-388, 14" x 18" x 2" rectangular kapok buoyant cushion, 20 oz. kapok, The American Pad and Textile Co. Dwg. No. B-66, dated Feb. 23, 1946, for use on motorboats

of Classes A, 1, and 2 not carrying passengers for hire (Manufactured by The American Pad and Textile Co., Greenfield, Ohio), submitted by Sears, Roebuck and Co., 925 South Homan Ave., Chicago 7, Ill. (12 F. R. 3122, May 13, 1947).

Approval No. B-389, 12" x 32" x 2" rectangular kapok buoyant cushion, 34 oz. kapok, Dwg. Nos. C-230 and A-175, dated April 21, 1947; Approval No. B-390, 12" x 40" x 2" rectangular kapok buoyant cushion, 43 oz. kapok, Dwg. Nos. C-232 and A-177, dated April 21, 1947; Approval No. B-391, 12" x 42" x 2", rectangular kapok buoyant cushion, 45 oz. kapok, Dwg. Nos. C-233 and A-178, dated April 21, 1947; Approval No. B-392, 14" x 46" x 2" rectangular kapok buoyant cushion, 57 oz. kapok, Dwg. Nos. C-234 and A-179, dated April 21, 1947; Approval No. B-393, 14" x 48" x 2" rectangular kapok buoyant cushion, 60 oz. kapok, Dwg. Nos. C-235 and A-180, dated April 21, 1947; Approval No. B-394, 14" x 52" x 2" rectangular kapok buoyant cushion, 65 oz. kapok, Dwg. Nos. C-236 and A-181, dated April 21, 1947; Approval No. B-395, 14" x 54" x 2", rectangular kapok buoyant cushion, 67 oz. kapok, Dwg. Nos. C-237 and A-182, dated April 21, 1947; for use on motorboats of Classes A, 1, and 2 not carrying passengers for hire; manufactured by The American Pad and Textile Co., Greenfield, Ohio. (12 F. R. 3122, May 13, 1947).

DAVITS

Wellin MacLachlan gravity davit, Type 60-75; general arrangement Dwg. No. 6075-1, dated Nov. 25, 1941, altered Mar. 25, 1947, to include trackway dimensions of 10-inch channels; submitted by the Wellin Davit and Boat Division of the Robinson Foundation, Inc., Perth Amboy, N. J. This approval replaces the approval published in the FEDERAL REGISTER March 4, 1942 (7 F. R. 1700), which is hereby terminated (12 F. R. 2998, May 3, 1947).

Wellin type B quadrant davit, maximum working load of 7750 pounds per

arm using six-part falls, General Arrangement Dwg. No. B-50, dated February 4, 1920, and revised October 15, 1941, manufactured by the Welin Davit & Boat Division of the Robinson Foundation, Inc., Perth Amboy, N. J. This approval replaces the approval published in the FEDERAL REGISTER of October 25, 1941 (6 F. R. 5473), which is hereby terminated (12 F. R. 2660, April 25, 1947).

Welin type B-N straight bloom sheath screw davit, maximum working load of 6750 pounds per arm using six-part falls, General Arrangement Dwg. No. 2411, dated October 16, 1942, and revised January 3, 1947, manufactured by the Welin Davit & Boat Division of the Robinson Foundation, Inc., Perth Amboy, N. J. This approval replaces the approval published in the FEDERAL REGISTER January 13, 1943 (8 F. R. 501), which is hereby terminated (12 F. R. 2660, April 25, 1947).

Welin type C, Crescent sheath screw davit, maximum working load of 6750 pounds per arm using three-part falls, General Arrangement Dwg. No. 2082, dated October 17, 1941, manufactured by the Welin Davit & Boat Division of the Robinson Foundation, Inc., Perth Amboy, N. J. This approval replaces the approval published in the FEDERAL REGISTER of March 4, 1942 (7 F. R. 1700), which is hereby terminated (12 F. R. 2660, April 25, 1947).

Welin type C Quadrant davit, maximum working load of 6750 pounds per arm using six-part falls, General Arrangement Dwg. No. C-50, dated November 22, 1932, and revised October 15, 1941, manufactured by the Welin Davit & Boat Division of the Robinson Foundation, Inc., Perth Amboy, N. J. This approval replaces the approval published in the FEDERAL REGISTER of October 25, 1941 (6 F. R. 5473), which is hereby terminated (12 F. R. 2660, April 25, 1947).

FIRE INDICATING AND ALARM SYSTEM

Fire alarm annunciator, automatic, supervised; Dwg. No. 55-100, Sheets 1, 2, and 3, Alt. 3, Dwg. No. 55-103, Alt. 5, Elementary system wiring diagram, Dwg. No. 55-104, Alt. 1, Relay, Dwg. No. 55-105, Alt. 0, Drop, Dwg. No. 55-106, Alt. 0, Zone panel assembly, Dwg. No. 55-107, Alt. 0, Control and test panel assembly, Dwg. No. A-6569, Alt. 0, Power failure alarm relay, Dwg. No. 55-101, Alt. 0, Fire alarm station, manual, Dwg. No. 55-102, Alt. 0, Fire alarm station, test, Dwg. No. 55-109, Alt. 0, Fire alarm system battery charging panel; manufactured by Henschel Corp., Amesbury, Mass. (12 F. R. 3152, May 14, 1947).

FIRE EXTINGUISHING APPARATUS

Kidde 35-pound carbon dioxide hose rack semiportable fire extin-

guisher, Installation Dwg. No. L-82835, dated July 9, 1946, manufactured by Walter Kidde & Co., 675 Main St., Belleville, N. J. (12 F. R. 3152, May 14, 1947).

FIRE RETARDANT MATERIALS FOR VESSEL CONSTRUCTION

J-M Aircoustic Sheet; mineral wool type structural insulation identical to J-M BX-18 described in National Bureau of Standards' Test Report No. TG-3619-36; FR-1404, dated May 17, 1939, with special sanded surface; boards approved for use without other insulating material to meet Class A-60 requirements in a two-inch thickness and 18 pounds per cubic foot density; submitted by Johns-Manville Sales Corp., 22 East 40th St., New York 16, N. Y. (12 F. R. 2998, May 3, 1947).

J-M Marine Acoustical Unit; mineral wool type structural insulation identical to J-M BX-18 described in National Bureau of Standards' Test Report No. TG-3619-36; FR-1404, dated May 17, 1939, with special sanded surface and three-sixteenths inch perforated J-M Marine Veneer added; boards approved for use without other insulating material to meet Class A-60 requirements in a two-inch thickness and 18 pounds per cubic foot density exclusive of the J-M Marine Veneer; submitted by Johns-Manville Sales Corp., 22 East 40th St., New York 16, N. Y. (12 F. R. 2998, May 3, 1947).

FIRE RETARDANT MATERIALS FOR VESSEL CONSTRUCTION: CLASS B-15 BULKHEAD PANEL

J-M marine sheathing, solid asbestos inorganic binder board, over-all thickness $\frac{3}{4}$ ", identical to that described in Johns-Manville letter to Coast Guard, dated March 6, 1947, submitted by Johns-Manville Sales Corporation, 22 East 40th St., New York 16, N. Y. (12 F. R. 2660, April 25, 1947).

J-M marine veneer, solid asbestos-cement board, over-all thickness $\frac{3}{4}$ ", identical to that described in Johns-Manville letter to Coast Guard, dated March 6, 1947, submitted by Johns-Manville Sales Corporation, 22 East 40th St., New York 16, N. Y. (12 F. R. 2660, April 25, 1947).

GAS MASKS

Bullard "Multi-Gas" universal gas mask, Dwg. No. 72-1, dated February 9, 1947, Bureau of Mines Approval No. 1439, consisting of BM-1439 canister, BM-1432 timer, BM-1439 harness, and BM-1419 facepiece, manufactured by E. D. Bullard Company, 275 Eighth Street, San Francisco 3, Calif.

Bullard "Smoke-Eater" universal gas mask, Dwg. No. 72-1, dated February 9, 1947, Bureau of Mines Approval

No. 1440, consisting of BM-1440 canister, BM-1432 timer, BM-1439 harness, and BM-1419 facepiece, manufactured by E. D. Bullard Company, 275 Eighth Street, San Francisco 3, Calif. (12 F. R. 2660, April 25, 1947).

LIFEBOATS

30' x 10' x 4.13' steel motor-propelled lifeboat, without radio cabin, 68-person capacity, arrangement and construction Dwg. No. 2054, dated March 14, 1945, and revised June 26, 1946, submitted by the Welin Davit and Boat Division of the Robinson Foundation, Inc., Perth Amboy, N. J. (12 F. R. 2501, April 17, 1947).

16' x 5.5' x 2.38' steel oar-propelled lifeboat; 12-person capacity; construction and arrangement Dwg. No. 408, dated December 29, 1943, and revised Mar. 13, 1946; submitted by the Welin Davit and Boat Division of the Robinson Foundation, Inc., Perth Amboy, N. J. (12 F. R. 2998, May 3, 1947).

30' x 10' x 4.13' Aluminum hand-propelled lifeboat, 83-person capacity, Construction and Arrangement Dwg. No. 3125, dated Aug. 6, 1946 and revised Mar. 10, 1947, submitted by the Welin Davit and Boat Division of the Robinson Foundation, Inc., Perth Amboy, N. J. (12 F. R. 3152, May 14, 1947).

30' x 10' x 4.13' Aluminum motor-propelled lifeboat with radio cabin, 75-person capacity, Construction and Arrangement Dwg. No. 3124, dated Aug. 15, 1946 and revised Mar. 10, 1947, submitted by Welin Davit and Boat Division of the Robinson Foundation, Inc., Perth Amboy, N. J. (12 F. R. 3152, May 14, 1947).

30' x 9.67' x 4.17' Aluminum hand-propelled lifeboat with pivoted thwarts for nested lifeboats, 70-person capacity, Construction and Arrangement Dwg. No. 3137, dated Oct. 16, 1946 and revised Mar. 26, 1947, submitted by the Welin Davit and Boat Division of the Robinson Foundation, Inc., Perth Amboy, N. J. (12 F. R. 3152, May 14, 1947).

RELIEF VALVES FOR LIQUEFIED INFLAMMABLE GASES

Consolidated Safety steel relief valves, Dwg. No. W-9-B6, manufactured by Consolidated Safety Valve Division, Manning, Maxwell & Moore, Inc., Bridgeport, Conn., for various primary service pressures in the types and sizes listed below:

Types	Size (inches)	Pressure rating	Orifice area (square inches)
1610W-1611W-1612W...	3	300	1.828
1610W-1611W-1612W...	4	300	2.853
1613A W-1613B W...	4	300	4.34
1610W-1611W-1612W...	6	300	11.05
1612W.....	4	600	2.853

(12 F. R. 3122 May 13, 1947.)

SAFETY VALVES

Farris Type No. 2399 safety valve; sizes ranging from 1½" diameter to 4" diameter, inclusive; for 300 pounds per square inch and 600 pounds per square inch primary pressure rating; maximum temperature of 650° F. when valve is equipped with carbon steel springs; temperatures of 650° F. to 850° F. maximum when valve is equipped with alloy steel springs; manufactured by Farris Engineering Co., Commercial Ave., Palisades Park, N. J. (12 F. R. 2998 May 3, 1947).

CONDITIONS OF APPROVAL AND TERMINATION OF APPROVAL

The above approvals shall be effective upon the date of publication in the Federal Register.

The termination of approval made by this document shall be made effective upon the 31st day after the date of publication in the Federal Register. Notwithstanding this termination of approval on any item of equipment, such equipment made before the effective date of termination of approval may be used so long as it is in good and serviceable condition.

AFFIDAVITS

The following affidavits were accepted during the period from April 15, 1947, to May 15, 1947.

O'Brien Steam Specialty Co., Inc., Syracuse, N. Y. Valves and fittings.
Marine Electric Co., 2121 Northwest Thurman Street, Portland, Oreg. Valves.

FUSIBLE PLUGS

The Marine Engineering Regulations and Material Specifications require that manufacturers submit samples from each heat of fusible plugs to the Commandant for test prior to plugs manufactured from the heat being used on vessels subject to inspection by the Coast Guard. A list of approved heats which have been tested and found acceptable during the period from April 15, 1947, to May 15, 1947, is as follows:

The Lunkenheimer Co., Post Office Box 360, Annex Station, Cincinnati, Ohio. Heat No. 286.

CERTIFICATION OF ARTICLES OF SHIPS' STORES AND SUPPLIES

The article of ships' stores and supplies certificated from April 25, 1947, to May 25, 1947, inclusive, for use on board vessels in accordance with the provisions of part 147 of the regulations governing "explosives or other dangerous articles on board vessels," is as follows:

The Penetone Co., Tenafly, N. J., SENIOR, Certification No. 217, May 14, 1947.

ELECTRICAL APPLIANCES

The following list supplements that published by the United States Coast Guard under date of May 15, 1943, entitled "Miscellaneous Electrical Equipment Satisfactory for Use on Merchant Vessels," as well as subsequently published lists, and is for the use of Coast Guard personnel in their work of inspecting merchant vessels. Other electrical items not contained in this pamphlet and subsequent listings may also be satisfactory for marine use but should not be so considered until the item is examined and listed by Coast Guard Headquarters.

Manufacturer and description of equipment	Location apparatus may be used				Date of action
	Passenger and crew quarters and public spaces	Machinery cargo and work spaces	Open decks	Pump rooms of tank vessels	
The Dayton Manufacturing Co., Dayton, Ohio:					
Lighting fixtures:					
Wall bracket, fixture No. B-5572, nonwatertight, 3 40-watt lamps maximum, drawing No. 946-J-105, Alt. C	x				1947 May 13
Spotlight, decorative, fixture No. C-10625, waterproof, 75-watt lamp maximum, drawing No. 947-B-1, Alt. B	x	x	x		Do.
Mirrored column light, fixture Nos. B-5573 and B-5573-A, nonwatertight, drawing No. 946-E-106, Alt. C	x				May 9
Table lamp, fixture No. L-15231, nonwatertight, drawing No. 946-G-111, Alt. D	x				May 6
Table lamp, fixture No. L-15232, nonwatertight, drawing No. 946-G-112, Alt. D	x				Do.
Table lamp, fixture No. L-15233, nonwatertight, drawing No. 946-G-113, Alt. C	x				Do.
Table lamp, fixture No. L-15234, nonwatertight, drawing No. 946-G-114, Alt. C	x				Do.
Table lamp, fixture No. L-15235, nonwatertight, drawing No. 946-G-115, Alt. C	x				Do.
Table lamp, fixture Nos. L-15236 and L-15236-A, nonwatertight, drawing No. 946-G-116, Alt. D	x				Do.
Table lamp, fixture Nos. L-15237 and L-15237-A, nonwatertight, drawing No. 946-G-117, Alt. C	x				Do.
Table lamp, fixture No. L-15238, nonwatertight, drawing No. 946-G-118, Alt. C	x				Do.
Table lamp, fixture No. L-15242, nonwatertight, drawing No. 947-D-9, Alt. B	x				Do.
Table lamp, fixture No. L-15141, nonwatertight, drawing No. 946-D-1147, Alt. O	x				Apr. 28
Corridor fixture No. C-10358-A, nonwatertight, 1 60-watt lamp maximum, drawing No. 658, Alt. C	x				May 23
Mirror fixture No. B-5175-A-8, nonwatertight, 2 30-watt luminaire lamps maximum, drawing No. 139, Alt. A	x				Do.
Pilot Marine Corp., New York, N. Y.:					
Rudder angle indicator, dial case, drawing No. PM-1101, Alt. 2	x	x			Apr. 28
Rudder angle indicator, transmitter unit, drawing No. PM-1120, Alt. 1	x	x			Do.
Rudder angle indicator, wiring diagram, drawing No. PM-1116, Alt. 0					Do.
The Simes Co., New York, N. Y.:					
Floor lamp, type L-5, nonwatertight, drawing No. 43641, Alt. 0	x				May 14
Desk lamp, type LK, nonwatertight, drawing No. 43606, Alt. 0	x				May 12
Cove light, type LS, nonwatertight, 25-watt lamps maximum, drawing No. 43604, Rev. 3/21/47	x				Do.
Chart table light, type LC-53, nonwatertight, 25-watt lamp maximum, drawing No. 43636, Alt. 0	x				Apr. 23
Window light, type LC-36, nonwatertight, 2 25-watt lamps maximum, drawing No. 43631, Alt. 0	x				Do.
Desk lamp, type LC-51, nonwatertight, drawing No. 43633, Alt. 0	x				Do.
Wall fixture, type LC-37-17, 6, 4, 3 and 2, nonwatertight, 25-watt lamps maximum, drawing No. 43634, Alt. 0	x				Do.
Bulletin board light, type LC-38, nonwatertight, 25-watt lamps maximum, drawing No. 43632, Alt. 0	x				Do.
Ceiling fixture, type LC-31, nonwatertight, 1 60-watt lamp maximum, drawing No. 43578, Alt. 0	x				Do.
Wall bracket light, type LD, nonwatertight, 2 60-watt lamps maximum, drawing No. 43596, Alt. 0	x				Do.
Ceiling fixture, type LN, nonwatertight, 1 150-watt lamp maximum, drawing No. 43601, Alt. 0	x				Do.
Desk lamp, type LJ, nonwatertight, 1 60-watt lamp maximum, drawing No. 43600, Alt. 0	x				Do.
Wall bracket light, type LF, nonwatertight, 1 100-watt lamp maximum, drawing No. 43598, Alt. 0	x				Do.
Mirror light, type LC, nonwatertight, 2 25-watt lamps maximum, drawing No. 43593, Alt. 0	x				Do.
Ceiling light, type LA, nonwatertight, 1 60-watt lamp maximum, drawing No. 43595, Alt. 0	x				Do.
Ceiling light, type LC-8, nonwatertight, 1 60-watt lamp maximum, drawing No. 43456, Alt. 0	x				Do.
Berth light, type LC-12, nonwatertight, 1 25-watt lamp maximum, drawing No. 43518, revised	x				Do.

Merchant Marine Personnel Statistics

MERCHANT MARINE LICENSES ISSUED DURING APRIL 1947

DECK OFFICERS

Region	Master										Chief mate										Second mate									
	Ocean		Coast-wise		Great Lakes		B. S. & L.		Rivers		Ocean		Coast-wise		Great Lakes		B. S. & L.		Rivers		Ocean		Coast-wise		Great Lakes		B. S. & L.		Rivers	
	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R
Atlantic coast.....	23	70	8	15			12	58	2	6	47	12		3			5	2			60	10	1	2						
Gulf coast.....	15	24		1			1	2	5	28	2								1		20	1								
Great Lakes and rivers.....		2		2	11	70		1	6	9		4		2		1		5	7											
Pacific coast.....	18	28	1	2			3	16	1	1	15	3		1		1	5			33	7									
Total.....	56	124	9	20	11	70	15	76	11	21	90	21		6		1	6	7	6	7	113	19	1	2						

Region	Third mate										Pilots						Master mate				Total		Grand total
	Ocean		Const- wise		Great Lakes		B. S. & L.		Rivers		Great Lakes		B. S. & L.		Rivers		Uninspected vessels, high seas				Orig- inal	Renew- al	
O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R				
Atlantic coast.....	45	16									2	62	112	11	16					276	324	600	
Gulf coast.....	29												8	15	18			1		111	60	171	
Great Lakes and rivers.....											50	163		1	25	14				97	277	374	
Pacific coast.....	32	9											17	42	2	4	2	2	5	2	130	122	252
Total.....	106	25									50	165	79	163	53	52	2	2	6	2	614	783	1,397

ENGINEER OFFICERS

Region	Chief engineer, steam				First assistant engineer, steam				Second assistant engineer, steam				Third assistant engineer, steam			
	Ocean		Inland		Ocean		Inland		Ocean		Inland		Ocean		Inland	
	O	R	O	R	O	R	O	R	O	R	O	R	O	R	O	R
Atlantic coast.....	51	104	11	45	51	31	1	9	57	18	1	3	65	22		
Gulf coast.....	17	28	3	10	11	6	2	5	21	9			29	4		
Great Lakes and rivers.....		24	29	108	10	11	31	54	7	10	17	32	8	6	11	2
Pacific coast.....	16	31	1	12	11	11	1	5	32	12			39	3		
Total.....	84	187	44	175	83	59	35	73	117	49	18	35	141	35	11	2

Region	Motor vessels								Uninspected vessels				Totals		
	Chief engineer		First assistant engineer		Second assistant engineer		Third assistant engineer		Chief engineer		Assistant engineer		Original	Renewal	Grand total
	O	R	O	R	O	R	O	R	O	R	O	R			
Atlantic coast.....	39	62	19	24	15	10	80	14					390	342	732
Gulf coast.....	8	7	4	3	4	1	30	1					129	74	203
Great Lakes and rivers.....	4	14	3	7	6	5	2						128	273	401
Pacific coast.....	23	33	8	11	4	5	10	4	2	3	6		153	130	283
Total.....	74	116	34	45	29	21	122	19	2	3	6		800	819	1,619

CREW SHORTAGE REPORTS FROM APR. 1 TO APR. 30, 1947

These Reports Submitted in Accordance With Navigation and Vessel Inspection Circular No. 34, Dated May 1, 1943

Region	Number of vessels	Ratings in which shortages occurred												Total
		Chief mate	Second mate	Third mate	Radio	Able seamen	Ordinary seamen	Chief engineer	First engineer	Second engineer	Third engineer	Qualified member engine department	Wiper or coal passer	
Atlantic coast.....	27		1		1	11	8			1	2	18	6	48
Gulf coast.....	37	1	1	2	1	14	9	1	2	7	5	34	4	81
Pacific coast.....	2						1		1					2
Great Lakes.....	23			2		16	2			4	7	4	2	37
Total.....	89	1	2	4	2	41	20	1	3	12	14	56	12	168

WAIVERS OF MANNING REQUIREMENTS FROM APR. 1 TO APR. 30, 1947

Authority for These Waivers Contained in Navigation and Vessel Inspection Circular No. 31, Dated March 13, 1943 and Navigation and Vessel Inspection Circular No. 37, Dated July 6, 1943

Region	Number of vessels	Deck officers substituted for higher ratings	Engineer officers substituted for higher ratings	Able seamen substituted for deck officers	Ordinary seamen substituted for able seamen	Qualified members of engine department substituted for qualified members of engine department	Wipers or coal passers substituted for qualified members of engine department	Wipers, coal passers or cadets substituted for engineer officers	Ordinary seamen or cadets substituted for deck officers	Total
Atlantic coast.....	395	28	30	2	686	13	94			833
Gulf coast.....	193	14	27		414	12	46	1	1	515
Pacific coast.....	104	2	7		134	2	26			171
Great Lakes.....	24		2		26		15			43
Total.....	716	44	66	2	1,260	27	181	1	1	1,582

ORIGINAL SEAMEN'S DOCUMENTS ISSUED DURING APRIL 1947

Region	Continuous discharge book	Certificate of identity	A. B., green, 3 years ¹	A. B., green, 9 months emergency ²	A. B., blue, 18 months, 12 months ³	A. B., blue, 6 months emergency ²	A. B., blue, 6 months emergency ²	Lifeboat, 12-24 months ⁴	U. S. merchant marine document	Q. M. E. D., 6 months	Q. M. E. D., emergency	Radio operators	Certificate of service	Tanker man	Staff officer	Total
Atlantic coast.....	4	1	71	75	173	9	1	282	2,058	327	54	29	1,708	8	93	4,893
Gulf coast.....	8	0	18	43	60	0	0	64	767	166	74	7	624	14	34	1,879
Pacific coast.....	1	0	31	46	104	8	0	154	836	131	45	4	692	8	124	2,184
Great Lakes and rivers.....	3	0	56	32	247	57	0	288	2,022	223	73	0	1,818	7	2	4,828
Total.....	16	1	176	196	584	74	1	788	5,683	847	246	40	4,842	37	253	13,784

¹ Unlimited.

² Great Lakes, lakes, bays, and sounds.

³ Tugs and towboats and freight vessels under 500 tons (miscellaneous).

⁴ 12 months deck or 24 months other departments.

NOTE.—There were no Panamanian employment cards issued.